

**CALCULATION OF CAPITAL ASSET PRICING MODEL COST OF EQUITY
USING AN HISTORICAL RISK PREMIUM**

LINE	COMPANY	VALUE LINE BETA	RISK- FREE RATE	MARKET RISK PREMIUM	BETA X RISK PREMIUM	CAPM COST OF EQUITY
1	ALLETE	0.85	2.9%	7.2%	6.1%	9.3%
2	Alliant Energy	0.85	2.9%	7.2%	6.1%	9.3%
3	Amer. Elec. Power	0.75	2.9%	7.2%	5.4%	8.5%
4	Ameren Corp.	0.80	2.9%	7.2%	5.8%	8.9%
5	CenterPoint Energy	1.10	2.9%	7.2%	7.9%	11.1%
6	CMS Energy Corp.	0.80	2.9%	7.2%	5.8%	8.9%
7	DTE Energy	0.90	2.9%	7.2%	6.5%	9.6%
8	Entergy Corp.	0.95	2.9%	7.2%	6.8%	10.0%
9	Eversgy	1.00	2.9%	7.2%	7.2%	10.3%
10	Fortis Inc.	0.80	2.9%	7.2%	5.8%	8.9%
11	MGE Energy	0.70	2.9%	7.2%	5.0%	8.2%
12	OGE Energy	1.05	2.9%	7.2%	7.6%	10.7%
13	Otter Tail Corp.	0.85	2.9%	7.2%	6.1%	9.3%
14	WEC Energy Group	0.80	2.9%	7.2%	5.8%	8.9%
15	AVANGRID, Inc.	0.80	2.9%	7.2%	5.8%	8.9%
16	Consol. Edison	0.75	2.9%	7.2%	5.4%	8.5%
17	Dominion Energy	0.80	2.9%	7.2%	5.8%	8.9%
18	Duke Energy	0.85	2.9%	7.2%	6.1%	9.3%
19	Eversource Energy	0.90	2.9%	7.2%	6.5%	9.6%
20	Exelon Corp.	0.95	2.9%	7.2%	6.8%	10.0%
21	FirstEnergy Corp.	0.85	2.9%	7.2%	6.1%	9.3%
22	NextEra Energy	0.85	2.9%	7.2%	6.1%	9.3%
23	PPL Corp.	1.10	2.9%	7.2%	7.9%	11.1%
24	Public Serv. Enterprise	0.90	2.9%	7.2%	6.5%	9.6%
25	Southern Co.	0.90	2.9%	7.2%	6.5%	9.6%
26	Avista Corp.	0.90	2.9%	7.2%	6.5%	9.6%
27	Black Hills	0.95	2.9%	7.2%	6.8%	10.0%
28	Edison Int'l	0.90	2.9%	7.2%	6.5%	9.6%
29	Hawaiian Elec.	0.80	2.9%	7.2%	5.8%	8.9%
30	IDACORP, Inc.	0.80	2.9%	7.2%	5.8%	8.9%
31	NorthWestern Corp.	0.90	2.9%	7.2%	6.5%	9.6%
32	Pinnacle West Capital	0.85	2.9%	7.2%	6.1%	9.3%
33	Portland General	0.85	2.9%	7.2%	6.1%	9.3%
34	Sempra Energy	0.95	2.9%	7.2%	6.8%	10.0%
35	Xcel Energy Inc.	0.80	2.9%	7.2%	5.8%	8.9%
36	Cost of Equity 0.87 Beta	0.87	2.9%	7.2%	6.3%	9.4%
37	Cost of Equity 0.89 Beta	0.89	2.9%	7.2%	6.4%	9.6%
38	Average Historical CAPM Cost of Equity					9.5%

Notes: Historical Ibbotson® SBBI® risk premium including years 1926 through year end 2019 from 2020 SBBI Yearbook. Value Line beta for comparable companies from Value Line. Utility beta equal to 0.89 calculated per Exhibit ____ (JWV-11). Treasury bond yield forecast from data in Value Line Selection & Opinion, August 28, 2020, and Energy Information Administration, 2020, determined as follows. Value Line forecasts a yield on 10-year Treasury notes equal to 1.5 percent. The October spread between the average yield on 10-year Treasury notes (0.79 percent) and 20-year Treasury bonds (1.34 percent) is 55 basis points. Adding 55 basis points to Value Line's 1.5 percent forecasted yield on 20-year Treasury notes produces a forecasted yield of 2 percent for 20-year Treasury bonds. EIA forecasts a yield of 3.28 percent on 10-year Treasury notes. Adding the 55 basis point spread between 10-year Treasury notes and 20-year Treasury bonds to the EIA forecast of 3.28 percent for 10-year Treasury notes produces an EIA forecast for 20-year Treasury bonds equal to 3.8 percent. The average of the forecasts is 2.9 percent (2 percent using Value Line data and 3.8 percent using EIA data).